Operators Manual

Belt Grinding Machines
Models BG75 – BG150

JEI SOLUTIONS LTD
Unit 30, Newhallhey Business Park
Rawtenstall
Rossendale
Lancashire BB4 6HR
UK
Tel- (00 44) 1706 229490 Fax (00 44) 1706 830496
Email – Service@jeisolutions.co.uk
www.steelbeast.co.uk

EU declaration of conformity

Unit 30, Newhallhey Bus Park
Rawtenstall, Rossendale
Lancs BB4 8EP
UK

Hereby declares that

SteelBeast Belt Grinding Machine is manufactured in accordance with the provisions of the COUNCIL DIRECTIVE of 17. May 2006 (2006/42/EC) – The Machinery Directive (order no. 561 of 25 June 1994 with subsequent amendments)

2006/42/EC:	Directive on machinery-safety
2004/108/EC:	Directive on Electromagnetic Compatibility
2006/95/EC:	Low Voltage Equipment Safety directive

Also on accordance with:

- The council directive of 19 February 1973 (73/23/EEC) – The Low Voltage Directive – with later amendments (order no. 797 of 30 August 1994)
- The council directive of 3 May 1989 (89/336/EEC) – The EMC Directive – with later amendments (order no. 796 of 5 December 1991 with subsequent amendments)

DK 9460 Brovst
Claus Nielsen,
Producent

Table of Contents

1. TRANSPORT & HANDLING 4

1.1 TRANSPORT 4
1.2 HANDLING 4
1.3 PLACING 4

2. DIRECTIONS 5

2.1 OPERATION 5
2.2 SAFETY RULES FOR STATIONARY POWER TOOLS. 5
2.3 SAFETY RULES FOR STATIONARY POWER TOOLS. 5
2.4 MAINTENANCE 7

3. SPARE PARTS LIST 8

3.1 DRAWING OF BELT GRINDING MACHINE WITHOUT EXHAUST SYSTEM 8
3.2 SPARE PARTS LIST FOR BELT GRINDING MACHINE WITHOUT EXHAUST SYSTEM 9
3.3 DRAWING FOR BELT GRINDING MACHINE WITH EXHAUST SYSTEM 10
3.4 SPARE PARTS LIST FOR BELT GRINDING MACHINE WITH EXHAUST SYSTEM 11

4. TECHNICAL DATA 13

4.1 TECHNICAL SPECIFICATIONS 13
4.2 DIMENSIONS 13
4.3 CIRCUIT DIAGRAMS 14
4.4 PRESSUREDIAGRAM 17

5. WARRANTY 18

5.1 GUARANTEE 18

1. Transport & Handling

1.1 Transport

The *STEELBEAST belt* grinding machine is packed in protective wrapping and delivered on a pallet with the following measures: 120 x 80 x 120 cm

1.2 Handling

The machine can easily be transported on the pallet on which it is delivered.

1.3 Placing

Mounting of the belt grinder must take place on a firm and level ground. The machine must be fastened to the ground by means of the four fittings which are used to fasten the belt grinder to the pallet.

The machine is provided with no-volt release protection switch and connected for the wanted voltage (V). The electrical connection must be performed by an authorized electrician, and it is important to control that the motor (and ventilator) has the correct direction or rotation (please see the arrow on the motor).

Eye shields, suction hose and perhaps dust bag must be mounted before use. The clamps for mounting the suction hose are placed in the dust bag. The eye shields (A) must be mounted into the eye shield fitting (see *fig.: 1.1*).

The tool rest (B) must be mounted at a distance of minimum 2 mm from the belt, and the handle (C) must be fastened. Turn the contact wheel by your hand and adjust the belt by means of the handle (D) until it runs just on the contact wheel (E). It must be controlled that the spark box (F) is properly fastened. The wanted working height is adjusted by means of the (G).

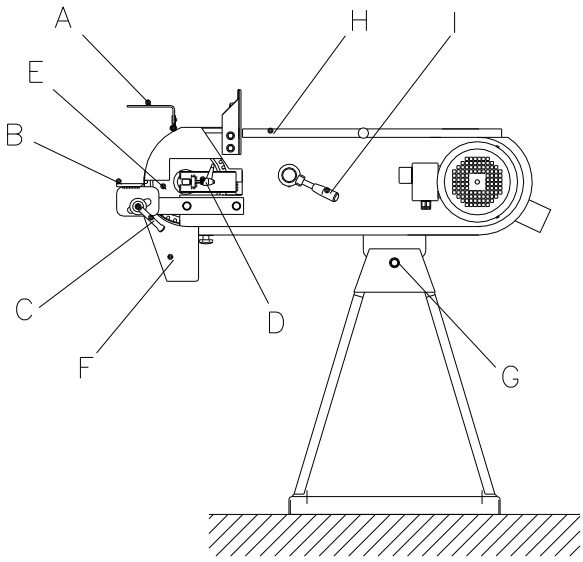


Fig.: 1.1

2. Directions

2.1 Operation

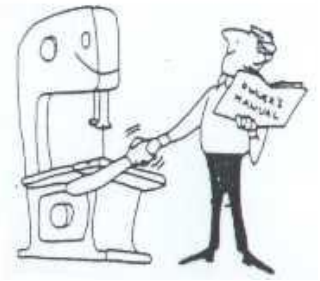
After adjustment and connection the belt grinding machine is ready for use. The grinding can take place by the contact wheel (E) or on the surface grinding table by opening the cover (H). The lifetime of a new belt is prolonged if the grinding starts with a light pressure.

2.2 Safety rules for stationary power tools.

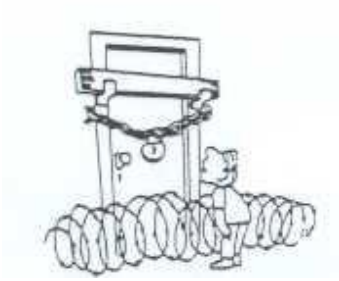
Follow them to achieve best results and full benefit from your new machine

2.3 Safety rules for stationary power tools.

Follow them to achieve best results and full benefit from your new machine.

<table>
<tr>
<td>The good craftsman respects the tools with which he works. He knows they represent years of constantly improved design. He also knows that they are dangerous if misused. This is the theme of a new safe-use program for stationary power tools. The safety rules are based on approved practices in industrial and home shops
 </td>
<td>1. Know your power tool. Read the owner’s manual carefully. Learn its applications and limitations, as well as the specific potential hazards peculiar to this tool.
  </td>
</tr>
<tr>
<td>2. Keep guard in place and in working order.
 </td>
<td>3. Ground all tools. If tool is equipped with three-prong plug, it should be plugged into a three-hole electrical receptacle. If an adapter is used to accommodate a two-prong receptacle, the adapter wire must be attached to a known ground. Never remove the third prong.
 </td>
</tr>
<tr>
<td>4. Remove adjusting keys and wrenches. Form habit of checking to see that keys and adjusting wrenches is removed before turning it on.
 </td>
<td>5. Cluttered areas and benches invite accidents.
 </td>
</tr>
<tr>
<td>6. Avoid dangerous environment. Don’t use power tools in damp or wet locations or expose them to rain. Keep your work area well lighted.
 </td>
<td>6. Keep children away. All visitors should be kept in a safe distance from work area.
 </td>
</tr>
</table>

8. Make workshop kid proof with padlocks, master switches, or by removing starter keys.



9. Don't force tool. It will do the job better and be safer at the rate for which it was designed.

.

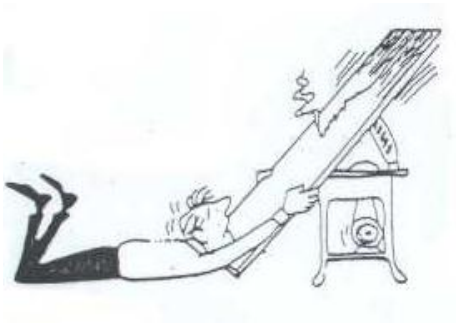
10. Use right tool. Don't force tool or attachment to do a job it was not designed for.

11. Wear proper apparel. Wear no loose clothing, gloves, neckties, rings, bracelets, or other jewellery which may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.

12. Always use safety glasses. Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses. They are **NOT** safety glasses.

13. Secure works. Use a clamps or vice to hold works, when practical. It's safer than using your hands and it frees both hands to operate tool.

14. Don't overreach. Keep proper footing and balance at all times.



15. Maintain tools with care. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

16. Disconnect tools before servicing and when changing accessories such as grinding wheels, polishing mops, grinding belts, blades, bits, cutters, etc.

17. Reduce the risk of unintentional starting. Make sure switch is in off position before plugging in.

18. Use recommended accessories. Consult owner's manual for recommended accessories. Use of improper accessories may cause risk of injury to persons.

2.4 Maintenance

Empty the spark box with regular intervals and control if the suction canals need a cleaning. The dust bag has to be emptied after use. The contact wheel should be replaced when the edges have been worn round or the tyre has been damaged. The graphite pad on the surface grinding table is changed as required.

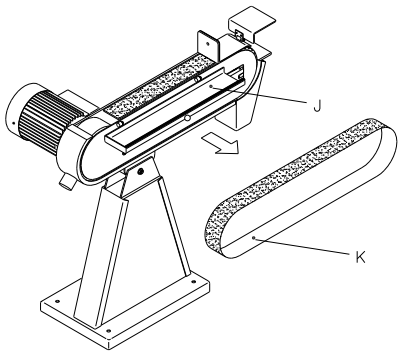


Fig.: 2.2

When changing the belt it is released by turning the handle (I) in anti-clock-wise direction (see *fig.: 2.1*), the cover (J) is opened and the worn-down belt (K) is removed by driving the belt against the direction of rotation, and the belt is removed from the machine by the drive wheel. The new belt is fitted. It must be checked that the direction of the arrows on the back side of the belt correspond to the direction of rotation. Fasten the handle (I) again and bring it into alignment with the handle (D).

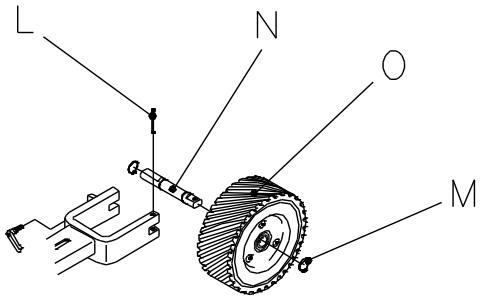


Fig.: 2.3

To change the contact wheel, remove the grinding belt, tool rest and spark arrester. Use a 6 mm mandel to hammer out the pin (L). Now the contact wheel with axle and bearings can be taken out. One of the lock rings (M) and the axle (N) can be taken out. The new contact wheel (O) is fitted in reverse order.

3. Spare Parts List

3.1 Drawing of Belt Grinding Machine without Exhaust system

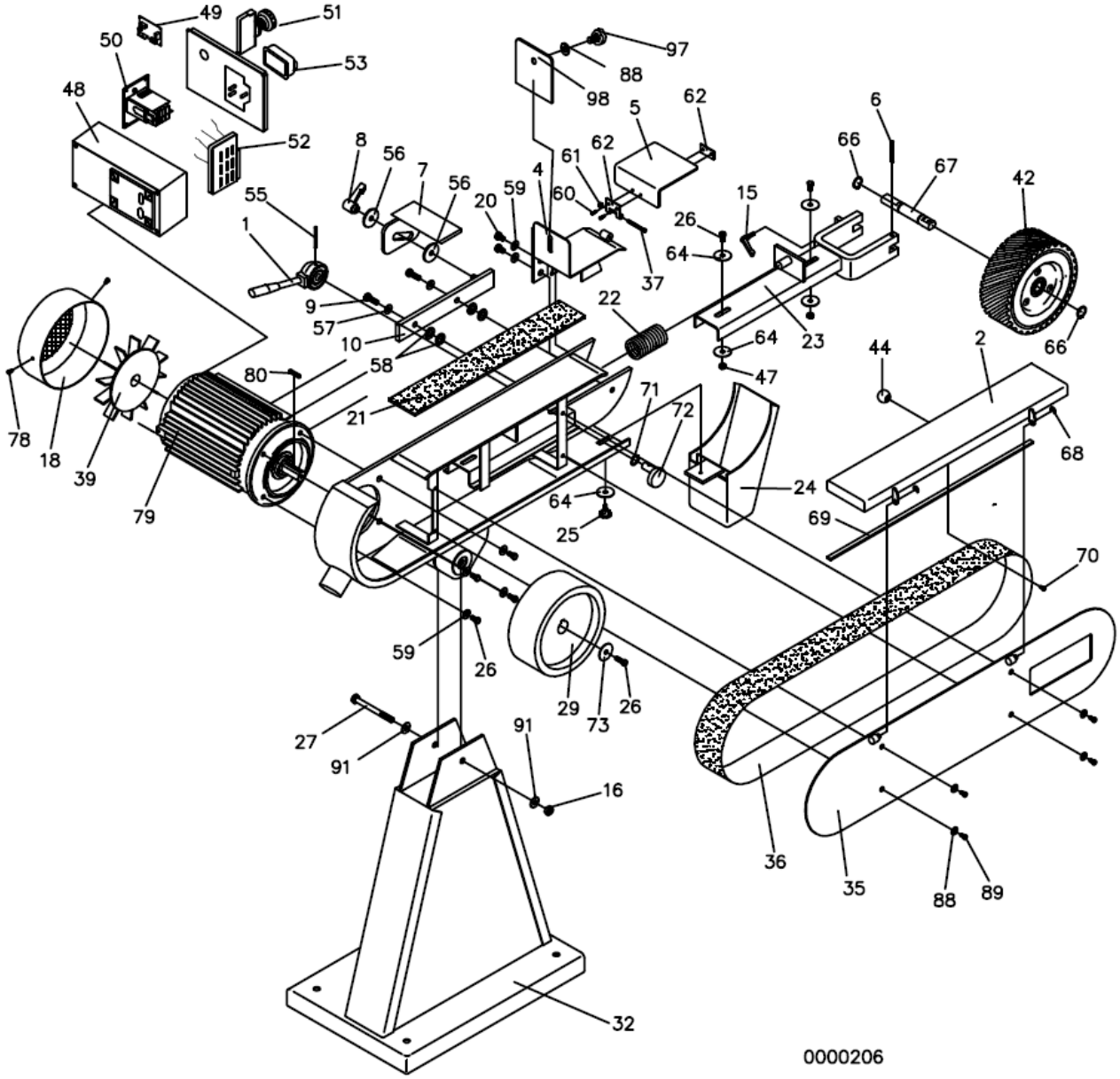


Fig.: 3.1

3.2 Spare Parts List for Belt Grinding Machine without Exhaust System

When ordering spare parts, please state machine type and serial number together with item number and description of the part according to this list.

Item No.	Description	Part Number	
		BG75	BG150
1	Belt Release Handle	0102267	0102267
2	Belt guard	0239202	0239502
4	Grinding stop / Cover Blue	0880002	4532344
5	Eye shield	0233605	0233705
6	Split pin ø6x50 mm	0233050	0233050
7	Tool rest	0233207	0233507
8	Handle for tool rest	0233808	0233808
9	Bolt M10x25	0300134	0300134
10	Support for tool rest	0239373	0239373
15	Handle M6x25	0233025	0233025
18	Fan cover for motor	-	-
20	Screw M8x12	0300144	0300144
21	Graphite pad	0233221	0233521
22	Spring 5,5x43x125x11 mm	0102265	0102265
23	Cradle for contact wheel	0110223	0110523
24	Spark arrester	0101224	0101524
25	Star Handle Ø32 M6x16	0233806	0233806
26	Screw M8x20	0233020	0233020
27	Bolt M12x100	4567832	4567832
29	Drive wheel	-	-
32	Base without exhaust system	0239832	0239832
35	Side panel	6549081	6549081
36	Grinding belt	-	-
37	Screw M6x45 CH	0950614	0950614
39	Fan wheel for motor	-	-
42	Contact wheel with bearings	1535005	1535007
44	Ball handle M6xØ25	0331662	0331662
47	Lock nut M8	0928644	0928644
48	Switch comp.	-	-
49	Brake Module (Additional)	0188845	0188845
50	Thermo relay	-	-
51	Emergency stop comp.	0188892	0188892
52	Relay w/0-volt release coil	-	-
53	Start/stop protection cover	0188893	0188893
55	Split pin Ø4x50 mm	0102266	0102266
56	Disc 10x45x4	0860327	0860327
57	Disc 10mm	0101491	0101491
58	Disc 10mm	2323212	2323212
59	Disc 8mm	5437850	5437850
60	Screw M4x8	0100425	0100425
61	Lock nut M6	0951406	0951406
62	Hinge mounting for eye shields	0921475	0921475
64	Disc 8mm	6540981	6540981
66	Lock ring Ø20	0311262	0311262
67	Shaft	0233251	0233551
68	Lock ring Ø7	0915720	0915720
69	Rubber list 657 mm	1055860	1055860
70	Screw M6x12	0930612	0930612
71	Wave spring 14x0.3x21	0102268	0102268
72	Eccentric for 8 mm motor sheet	0752262	0752262
73	Disc 8mm	6540981	6540981
78	Screw M4x5	0737620	0737620
79	Motor	-	-
80	Parallel key	-	-
88	Disc 6mm	0737631	0737631
89	Screw M6x10	0110089	0110089
91	Disc 8mm	0105167	0105167
97	Star M6	0233807	0233807
98	Rest for surface grinding	1055680	1055682

3.3 Drawing for Belt Grinding Machine with Exhaust System

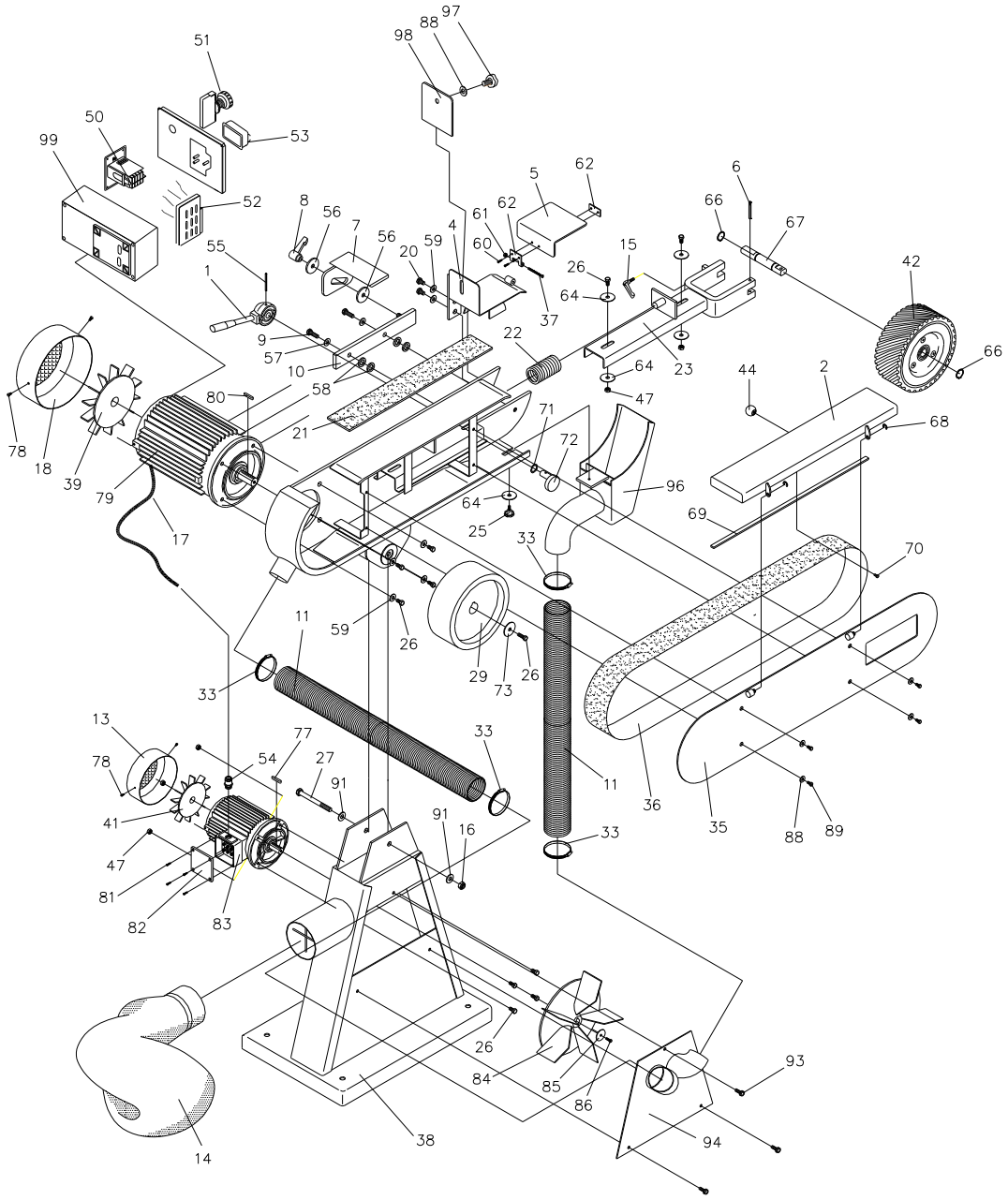


Fig.: 3.2

3.4 Spare parts List for Belt Grinding Machine with Exhaust System

When ordering spare parts please state machine type and serial number together with item number and description of the part according to this list.

Item No.	Description	Part Number	
		BG75X	BG150X
1	Belt release handle	0102267	0102267
2	Belt guard	0239202	0239502
4	Grinding stop/Cover Blue	0880002	4532344
5	Eye shield	0233605	0233705
6	Split pin ø6x50 mm	0233050	0233050
7	Tool rest	0233207	0233507
8	Handle for tool rest	0233808	0233808
9	Screw M10x25	0300134	0300134
10	Support for tool rest	0104373	0104373
11	Suction hose ø63	7891011	7891011
13	Fan cover for exhaust motor	2075180	2075180
14	Dust bag	0811793	0811793
15	Handle M6x25	0233025	0233025
16	Lock nut M12	0105166	0105166
17	Cable	0963084	0963084
18	Fan cover for motor	-	-
20	Screw M8x12	0300144	0300144
21	Graphite pad	0233221	0233521
22	Spring 5,5x43x125x11 mm	0102265	0102265
23	Fork for contact wheel	0101224	0101524
25	Star handle Ø32 M6x16	0233806	0233806
26	Screw M8x20	0233020	0233020
27	Bolt M12x100	4567832	4567832
29	Drive wheel	-	-
33	Hose strap 58-75 mm	0233058	0233058
35	Side plate for GRIMAX	6549081	6549081
36	Grinding belt	-	-
37	Screw M6x45 CH	0950614	0950614
38	Dust extractor	0239853	0239853
39	Fan wheel for motor	-	-
41	Fan wheel for exhaust motor	2031015	2031015
42	Contact wheel with ball bearings	1535005	1535007
44	Ball handle M6xØ25	0331662	0331662
47	Lock nut M8	0928644	0928644
50	Thermo relay	-	-
51	Emergency stop comp.	0188892	0188892
52	Relay w/0-volt release coil	-	-
53	Start/stop protection	0188893	0188893
55	Split pin Ø4x50 mm	3454351	3454351
56	Disc 10x45x4	0860327	0860327
57	Disc 10mm	0101491	0101491
58	Disc 10mm	2323212	2323212
59	Disc 8mm	5437850	5437850
60	Screw M4x8	0100425	0100425
61	Lock nut M6	0951406	0951406
62	Hinge mounting for eye shields	0921475	0921475
64	Disc 8mm	6540981	6540981
66	Lock ring Ø20	0311262	0311262
67	Shaft	0233251	0233551
68	Lock ring Ø7	0915720	0915720
69	Rubber strip 657 mm	1055860	1055860
70	Screw M6x12	0930612	0930612
71	Wave spring 14x0.3x21	0102268	0102268
72	Eccentric for 8 mm motor sheet	0752262	0752262
73	Disc 8mm	6540981	6540981
77	Parallel key 36x6x6	0110077	0110077
78	Screw M4x5	0737620	0737620
79	Motor	-	-
80	Parallel key	-	-
81	Screw M4x12	0737610	0737610
82	Cover for terminal box	0110082	0110082
83	Exhaust motor 0.5HP	2030040	2030040
84	Fan wheel large 250 mm	0995704	0995704
85	Disc 5mm	0233030	0233030
86	Screw M5x30	0331786	0331786
88	Disc 6mm	0737631	0737631
89	Screw M6x10	0110089	0110089
91	Disc 12mm	0105167	0105167

93	Screw Taptite M6x16	0910616	0910616
94	Side plate for base	0239128	0239128
96	Spark box with exhaust system	0239252	0239552
97	Star M6	0233807	0233807
98	Rest for surface grinding	1055680	1055682
99	Switch comp.	-	-

4. Technical Data

4.1 Technical Specifications

Model	**BG75/75X**	**BG150/150X**
Grinding belt	75x2000	150x2000
Motor 3x380-440 V 50 Hz *	4,1 HK 4,8 HK	4,8 HK *
Class	IEC 34-1	IEC 34-1
IP Class	54	54
R/min.	2800	2800
Amp	10.6/6.1	10.6/6.1
Cos	0,91	0,91
Belt speed (m/s)	30	30
Contact wheel	Ø200x75	Ø200x150
Grinding surface	540 mm	540 mm
Fan motor (only X-model)	0,5 HK	0,5 HK
Weight without fan/with fan	85 kg /111 kg	114 kg /140 kg

* 5,5 HP motor available.

4.2 Dimensions

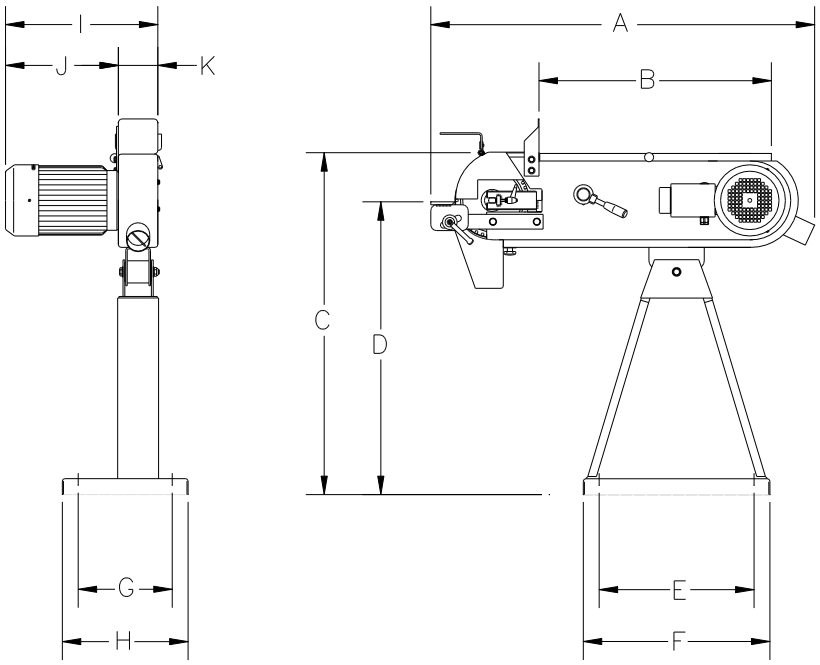


Fig.: 4.2

Model	A	B	C	D	E	F	G	H	I	J	K
50	995	660	890	780-1070	420	506	255	341	392	306	86
75	995	660	890	780-1070	420	506	255	341	413	306	107
100	995	660	890	780-1070	420	506	255	341	439	306	133
150	995	660	890	780-1070	420	506	255	341	491	306	185

4.3 Circuit diagrams

STEELBEAST belt grinding machines can be connected to 3 x 400/440 V, 50/60 cycles and to 3 x 230 V 50/60 cycles. There are three kinds of circuit diagrams:

1. One velocity grinder without brakes see 4.3.1 and 4.3.2
2. One velocity grinder with brakes see 4.3.3 and 4.3.4
3. Two velocity grinder with no brakes see 4.3.5 and 4.3.6

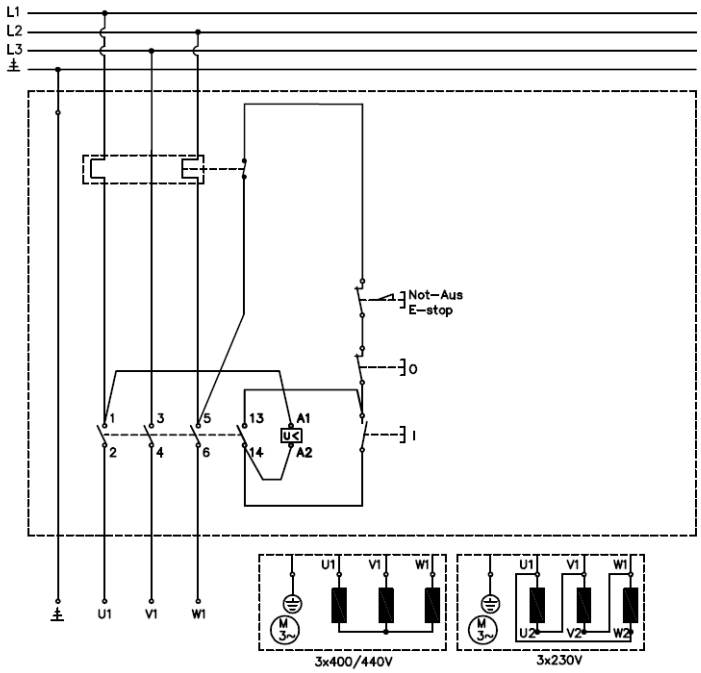


Fig. 4.3.1.: Diagram of belt grinder with no exhaust motor.

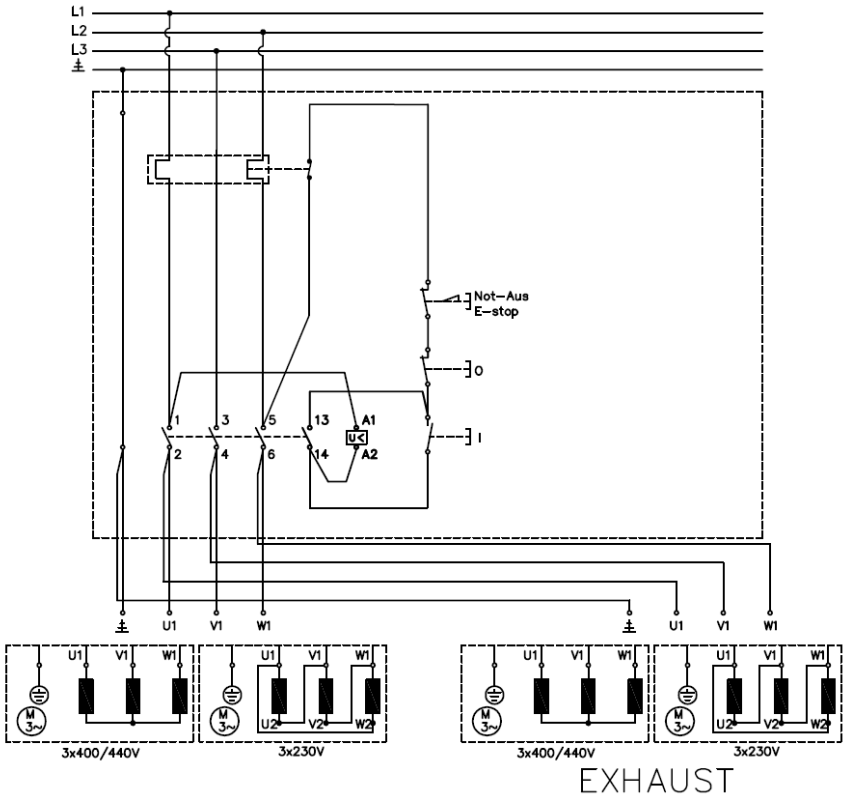


Fig. 4.3.2.: Diagram of belt grinder with exhaust motor.

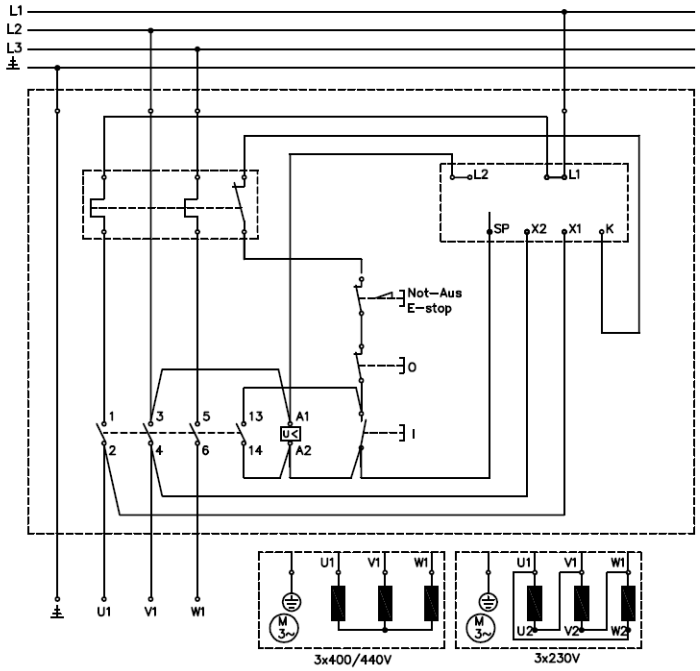


Fig.: 4.3.3 Diagram of belt grinder with brake and no exhaust motor.

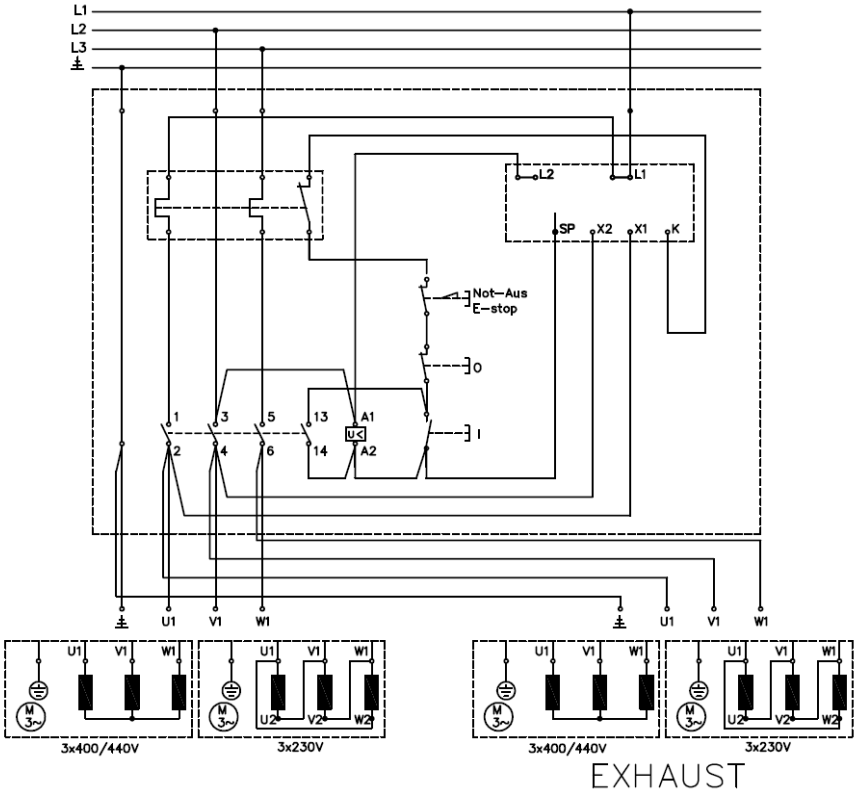


Fig.: 4.3.4 Diagram of belt grinder with brake and exhaust motor.

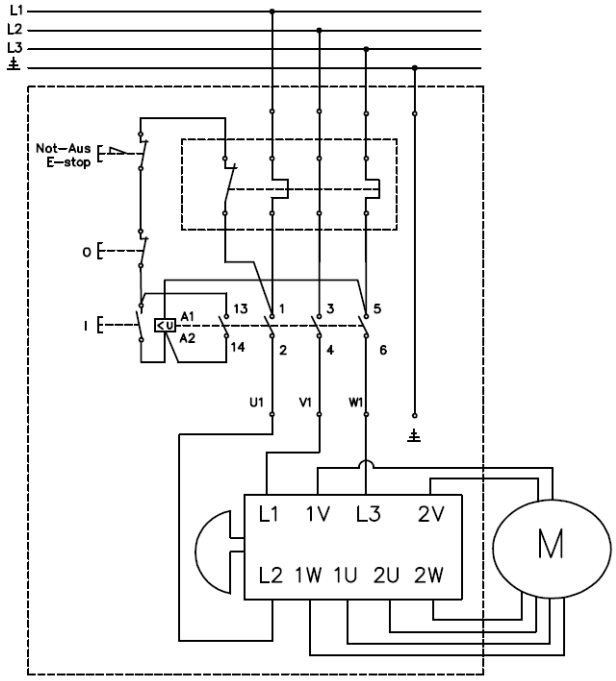


Fig.: 4.3.5 Diagram of belt grinder with two velocities and no exhaust motor.

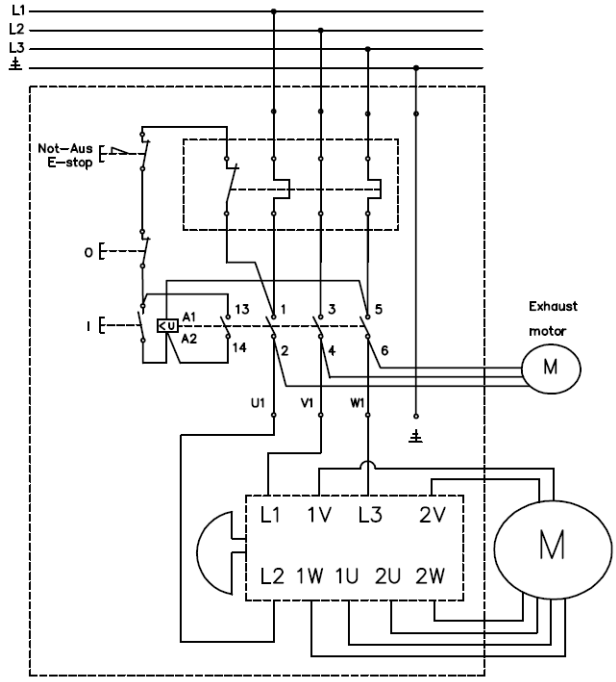
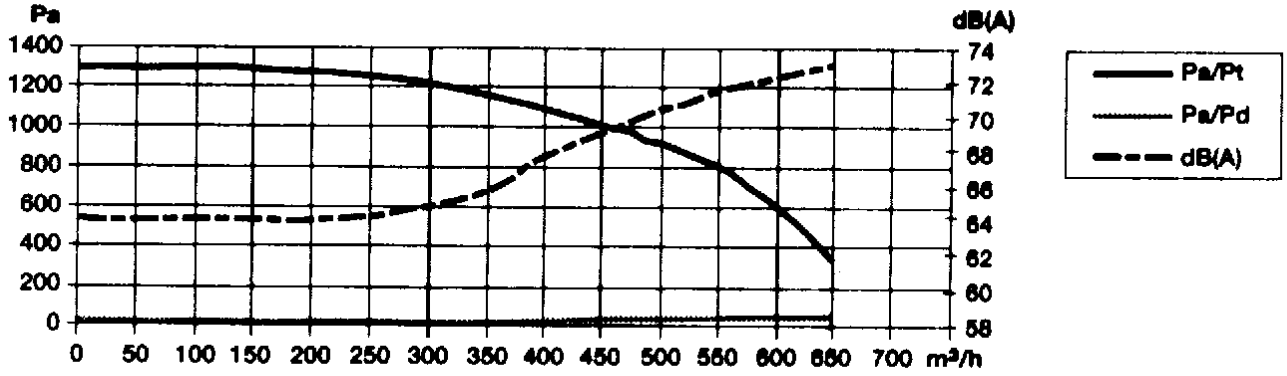


Fig.: 4.3.6 Diagram of belt grinder with two velocities and exhaust motor.

4.4 Pressure diagram

The fan is especially developed for belt grinders. It can set up a pressure up to 1300 Pa and an air flow from 0 to 650 m³/hour. It is constructed of 1,5 mm steel plate and is spot welded. It has a 3-phase motor 3x230/400 V and 1x230V 50/60 Hz, 2800 RPM. The fan is enclosed in Class IP 54.



5. Warranty

5.1 Guarantee

If within 2 year of purchase this machine supplied by JEI Solutions Ltd becomes defective due to faulty materials or workmanship we guarantee to repair or replace the machine or defective part or parts free of charge provided that:

1. The product is returned complete to one of our Service Branches or Official Service Agents.
2. The product has not been misused or carelessly handled and in particular has not been used in a manner contrary to the operating instructions.
3. Repairs have not been made or attempted by other than our own Service Staff or the staff of our Official Service Agents.
4. Documentary proof of purchase date is produced when the goods are handed in or sent for repair.
5. Wear parts are not covered by the warranty

JEI Solutions Ltd offers you five years guarantee on the electrical motor if the motor becomes defective or even burns-out within the first 5 years from date of invoice.

JEI SOLUTIONS LTD
Unit 30, Newhallhey Business Park
Rawtenstall
Rossendale
Lancashire BB4 6HR
UK
Tel- (00 44) 1706 229490 Fax (00 44) 1706 830496
Email – Service@jeisolutions.co.uk
www.steelbeast.co.uk